Technology 114//S



Providing transportation technology transfer for lowa's cities and counties

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Iowa Local Technical Assistance Program

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IOWA STATE UNIVERSITY Institute for Transportation

Free web-based training opportunities abound

NHI, ITE, and TC3 offering courses

Iowa LTAP has set up a webpage to aggregate all the online courses offered as a result of recent partnerships among transportation agencies. The webpage with all details can be found here: https://iowaltap.iastate.edu/webbased-training-opportunities/. Details on the trainings and direct links are also below.

NHI

To celebrate its 50th anniversary, the National Highway Institute (NHI) announced it will be offering discounted rates for several trainings that includes all of its web-based offerings free of charge.

These discounted rates or free courses will be offered through Dec. 31, 2020. It was made possible through the support of the FHWA and the NHI.

Web-based trainings are self-paced and accessible after logging into the NHI website. Users can save their place in the training and revisit the modules any time during a six-month period, though the exams may only be completed once. More than 180 web-based trainings are available.

The promotional reduced rates for instructorled trainings will be reflected on the course description page for each training for those interested in those offerings.

To take advantage of the courses, users can create an account here: http://bit.ly/nhitraining and use their government email when accessing the NHI course offerings.

ITE

A new partnership between the FHWA and Institute of Transportation Engineers (ITE) makes it possible for local and tribal public agency practitioners in smaller jurisdictions to access free web-based training modules.

The free training opportunities are open to employees in counties with populations fewer than 100,000, cities or towns with populations fewer than 50,000, and all tribal governments, and they are available through the ITE Learning Hub.

The 14 courses available from the partnership focus on traffic control and safety. An ITE login is required, but users can create an account through the Learning Hub after confirming their eligibility.

To confirm eligibility, contact Kellyanne Broom, ITE professional development manager, at pdinfo@ite.org.

TC3

AASHTO, through a partnership with FHWA, also opened its Transportation Curriculum Coordination Council (TC3) library recently to respond to the changing needs of transportation technical workers. More than 190 training modules are available at the TC3 website and on its mobile application (app).

The free courses are only available to local agencies. To take advantage of the courses, users should visit http://bit.ly/tc3training, select their course(s), and enter their government email address and promotional code D5X3-B3D9-52CB-4XCX to access the offerings. ■







Acronyms and Abbreviations in **Technology News**

AASHTO American Association of State Highway and Transportation Officials APWA American Public Works Association FHWA Federal Highway Administration **ICEA** Iowa County Engineers Association IHRB Iowa Highway Research Board InTrans Institute for Transportation (at ISU)

Iowa DOT Iowa Department of Transportation

ISU Iowa State University

LTAP Local Technical Assistance Program MUTCD Manual on Uniform Traffic Control

NACE National Association of County

TRB Transportation Research Board



U.S. Department of Transportation **Federal Highway Administration**



About LTAP

LTAP is a national program of the FHWA. Iowa LTAP, which produces Technology News, is financed by the FHWA and the Iowa DOT and administered by the Institute for Transportation at Iowa State University:

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Printed with soy ink

From the Director: Being comfortable with the uncomfortable

There is an open letter from LTAP to our friends in this newsletter. Please take a look if you haven't already; it includes information about our evolving plans during this time of uncertainty. We are reviewing each of our existing events and will be postponing some and evaluating how to go virtual through various methods with as many as we can. We'll also be adding and sharing, on a weekly basis we hope, some new resources and opportunities for technical materials and training in the short term. The time frame to take advantage of some of this information will likely be compressed (at least initially), please sign up on our home page (and/or join us on Facebook) to get the details directly. Thanks for sticking with us as we make this transition.

As some of you know, I traveled out of the country very early in March. I had written a version of this "being comfortable with the uncomfortable" column before I left. At that time, it had focused on the speed at which change seems to be occurring today, the rate of information exchange, and the dramatic lightspeed swings in public "discourse." Little did I know that the country I left in early March would dramatically change in the two weeks (really just a few days is my understanding) I was gone. It is a dramatic example of how useful it is to become comfortable with the uncomfortable (or uncertainty).

I came back to a very different Iowa, where changes and adjustments are definitely coming at us even more quickly than when I'd left. Hourly and daily it seems. And these changes are happening in areas of so much importance to us—how we travel, live, work, eat, and connect. Some would say at rates not comparable to anything any of us have experienced in the past. Usually when we talk about things like adjusting to change, we are discussing "innovations," but now these adjustments are to the "new normal" of how we live our lives.

There are many activities that can be pursued to work the muscles that help people get more comfortable with the uncomfortable and uncertainty. This training, bit by bit, increases their ability to work with the impermanence in this world of ours. Of course, this training is easier talked about than done. We've all been at events, conferences, and workshops where the facilitators

try to push us out of our learning comfort zone (e.g., "you present and I listen"). Invariably these activities mostly lead to good things, and more learning happens if designed properly. The uncomfortable "line," however, is different for everyone (which is what makes doing these activities a bit dangerous during training), and for an individual it can take both physical and mental effort to push that line out further.

Recently, I've started to purposefully put myself into uncomfortable situations. These activities have included traveling, volunteering, and discussing particular subjects. So, what have I noticed? I've found my "comfort line" and have attempted to push beyond it. But I have also started working toward recognizing this "line" in other people when they are involved with an activity. Practicing being uncomfortable when you are the one deciding to put yourself in that situation can, in my opinion, strengthen the muscles needed to respond to change. Being in situations that may require you to work with or depend on others and/or respond in the moment to changes outside of our control can develop parts of the brain that make us more resilient. We all need some resiliency right now.

As noted above, Iowa LTAP is very busy postponing or working to virtualize, as much as possible, our existing face-to-face instructional workshops. We also have some "in the can" subjects we'll probably introduce very soon. Some workshops have also had to be canceled. Our plan is to be in regular communication with our customers through various means. Please also send us ideas for online trainings, and we'll add them to our developing list. As time goes on, this list will also adjust and change.

Most importantly my friends - please be safe, healthy, and connected as best you can. We are all in this together.

Please stay in touch with LTAP. Let us know what is happening and what you need.

Lots of things happening every second, minute, hour, and day. Be there.

With Gratitude.

True Pap

Keith

LTAP is here as a resource for you!

The following letter is being distributed to all of Iowa LTAP's contacts:

In these uncertain times communication is key. Please consider Iowa LTAP as a resource that is ready to help. We are open for business and working to set up weekly updates with additional resources and/or online opportunities that we hope will be of value to Iowa's local agencies. A list of free training and technical material resources already available on our website is below. Check it out!

If you'd like to get this information directly from LTAP (as some of the training opportunities may have short advertising time frames) please subscribe to our Iowa LTAP mail list on the right side of our home page (https://iowaltap.iastate.edu/).

While we have had to cancel or postpone some trainings, we are also still available to answer technical questions and find technical resources for you (please call or email us).

Free online training and technical information resources that are available for your use on our website:

- Information for free online training from ITE, TC3, and FHWA (https://iowaltap.iastate.edu/web-based-training-opportunities/)
- Free video streaming service for your use (https://iowaltap.iastate.edu/videos/)
- 100s of "tailgate talk" materials (https://nltapa.org/information-exchange/nltapa-tailgate-talks/)
- Our safety training resources webpage (https://iowaltap.iastate.edu/2020-safety-resources-main-face/)
- Some past webinar recordings from LTAP and FHWA (https://iowaltap.iastate.edu/webinars/ and https://iowaltap.iastate.edu/fhwa-webinars-innovation-exchange/)
- APWA online Leadership Institute Training (https://iowaltap.iastate.edu/public-employees-leadership-institute/)
- Technology News (our newsletter) (https://iowaltap.iastate.edu/technology-news-new/)

- Safety Circuit Rider online materials (https://iowaltap.iastate.edu/safety-circuit-rider/)
- Library and online resources (https://iowaltap.iastate.edu/stan-ring-memorial-library-and-online-resources/)
- MDST website with a tool box of lots of safety links (https://iowaltap.iastate.edu/mdst/)

Also, please do not hesitate to reach out if you have suggestions for materials or presentations we can provide electronically (kknapp@iastate.edu, 515-294-8817) and check back to our website frequently as we update the status of our workshops. Registration for any workshops that are active on the website does not require immediate payment. We will always contact those that have registered for a workshop if there are changes in its status.

Be healthy and safe. We are all in this one together. With gratitude.

Iowa LTAP.

Keith Knapp, Paul Albritton, David Veneziano, Theresa Litteral, and Christinia Crippes ■

Iowa DOT message on bridge load posting

The following letter was sent in October 2019 on behalf of the Iowa DOT Bridges and Structures Bureau:

It has come to our attention that some counties may be posting more bridges at lower limits than is necessary or posting in a manner that would limit certain legal loads while attempting to prohibit certain configurations carrying lesser loads. When a bridge requires new posting, the maximum gross weight limits that should be used on a posting sign (as shown below) are 38 tons, 48 tons, and 48 tons. The silhouette

maximum limits are based on the seven axle Special Haul Vehicle for the straight truck, the seven axle 96,000 pound legal truck for the semitrailer, and 96,000 pounds for the double bottom legal truck.

The use of a gross weight tonnage sign or axle weight limits sign are both allowable when it is determined that they are the best method for restricting loads crossing a bridge. The maximum gross tonnage shall be 48 tons. The maximum single axle tonnage shall be 10 tons.

The maximum tandem axle tonnage shall be 17 tons. The maximum triple axle tonnage shall be 21 tons.

All bridges that are currently posted do not need to be updated to this new set of load limits. These new maximum limits shall apply to any new posting going forward.

Anyone with questions is instructed to contact Iowa DOT Bridge Maintenance and Inspection Engineer Scott Neubauer at (515) 239-1165 or at scott. neubauer@iowadot.us. ■



BRIDGE LOAD LIMIT
(PER AXLE GROUP)
SINGLE AXLE 10 T
TANDEM AXLE 17 T
TRIPLE AXLE 21 T



Iowa LTAP Mission

To foster a safe, efficient, and environmentally sound transportation system by improving skills and knowledge of local transportation providers through training, technical assistance, and technology transfer, thus improving the quality of life for Iowans.

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Big ideas expressed at County Engineers Research Focus Group

About 40 county engineers brainstormed more than a dozen potential research topics to improve their roads during the annual County Engineers Research Focus Group meeting.

The event was held on Feb. 26 at the Iowa State University Alumni Center in Ames. The event is sponsored by the Iowa LTAP and

During about an hour long discussion, the county engineers brought forward 15 ideas for potential future research.

Those ideas included everything from asphalt reinforcing fibers to slope stabilization to frost boil solutions. However, when it came down to voting for their preferred topics, the engineers had clear favorites.

In the end, the top five ideas voted on during the county focus group will be presented to the Iowa Highway Research Board for consideration.

The top five ideas or general subjects voted

· Agriculture agencies and secondary roads departments collaboration on soil drainage

- Unpaved road stabilization with alternative and recycled materials
- Updated standards for culverts in counties
- · Consideration of weight counts rather than traffic counts
- An overview of research results and their

Those ideas will help the IHRB better understand county engineers' needs and better target local issues.

Several projects from the previous two years' County Engineers Research Focus Group meetings have resulted in IHRB projects. Of nine ideas from 2018, four are already IHRB projects and two are in the process of becoming projects. Of 10 ideas in 2019, 1 is underway, 2 have had literature reviews, and two more are currently in the process of becoming projects.

During the research focus group, county engineers also got an update on ongoing research projects, mostly related to gravel roads, and an overview of all that LTAP currently has in the works.







County engineers got together on Feb. 26 to express and vote on ideas for potential future research topics

The Iowa Model: Developing a multi-service layered TSMO program plan

The Iowa DOT has leveraged Second Strategic Highway Research Program (SHRP2) funding to initiate and develop a Transportation Systems Management and Operations (TSMO) Strategic Plan and a TSMO Program Plan to help the organization shift its culture to be more operationally focused. The plans were finalized and made available in February 2016.

Iowa's TSMO plans were developed with input from a broad range of internal and external stakeholders to establish the business case for TSMO in Iowa. As one of the first TSMO Plans to be completed in the country, the work has been recognized at the national level and often referred to as "The Iowa Model."

A total of eight service layer plans were identified as key TSMO functional areas, critical to advancing the Iowa DOT's mission:

- ITS and Communications
- Traffic Incident Management (TIM)
- Work Zone Management
- Traveler Information
- · Emergency Management
- Advanced Transportation Demand Management

- Cooperative Autonomous Transportation
- Traffic Management Center (TMC)
- · Iowa's Initiatives

Through the development of these plans, there have been initiatives that have allowed lowa the opportunity to share and educate others outside the agency on the benefits of TSMO and to enhance and grow our relationships around the safe mobility of our transportation system.

For example, from a Traffic Incident Management perspective, the Iowa DOT created a Statewide TIM committee that includes representatives from Iowa State Patrol, local law enforcement, fire and other emergency response representatives, city and county representatives, Iowa Motor Truck Association, private towing companies, Homeland Security, and FHWA. This committee is in the process of being established as a non-profit group to expand its role in serving the TIM community throughout the state.

Want to know more about TSMO? Well, in 2016, as part of the rollout, the Iowa DOT developed a short video to introduce and

explain TSMO. Known as the "Jam" video, the short two-minute video gives an overview of TSMO and why Iowa DOT is focusing on improving operations. The video also highlights different strategies that the Iowa DOT uses to help keep traffic moving and keep freeways "jam free." See for yourself how different tools in the TSMO toolbox work together. There is a link to the video available from Iowa DOT's TSMO website (https://iowadot.gov/tsmo/home), and the video can be directly accessed on YouTube (https://www.youtube.com/watch?v=dbA.ldN-cPo).



Article written by Brandy Haenlein, a communication specialist with InTrans. Information obtained from a case study by the National Operations Center of Excellence (NOCoE), which is available via their website (https://transportationops.org/).

Entries welcome for Mousetrap contest

Competition deadline is May 1

The Iowa Build a Better Mousetrap
Competition is a chance for local agencies to share—and show off—the unique solutions they've developed for their shops, the innovative tool they've employed in the field, or the new equipment they've fabricated to improve safety.

Local agency employees can learn more about the competition, as well as get details to submit an entry at https://iowaltap.iastate.edu/build-a-better-mousetrap-competition/. Entries are accepted online and are due by May 1, 2020.

Entrants must provide a photo of their invention, details on its cost and savings/ benefits to the community, and offer background as to why and how the solution was developed. Videos of the equipment or innovation are encouraged. The entries will be judged on cost savings/benefit to the community, ingenuity, ease of transferability, effectiveness, and video demonstrations.

Top entries will be recognized with plaques at the Iowa Streets and Roads Conference, and they will earn between three and one free registrations to LTAP's many training courses. The first place winner will also get on-site recognition and an appreciation lunch.

The 2019 winner, the city of Clive, won for its inventive custom rivet press for its street blade assembly. Other recognized entries were from Clayton and Appanoose counties that invented a motor grader roller that combines blading rocks and "wheel packs" them in one pass and a back-up alarm system for trailers, respectively.



Summit focuses on first responders' safety

Challenge accepted.

That was the attitude that Sgt. Robert Bemis brought to returning to the Pennsylvania State Police after being struck by a car in 2015, but it also sums up the attitude that needs to be brought to traffic incident management (TIM) training.

"The procedures taught in traffic incident management should be considered perishable; that is, if you don't regularly refresh those skills and regularly remind people of why those skills are important, you'll tend to lose your edge," said Bemis.

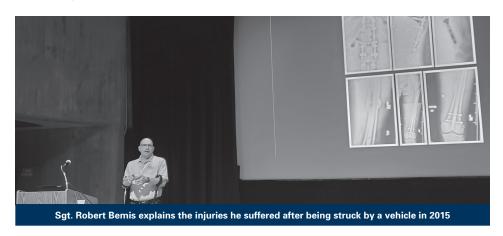
Bemis, a now retired Pennsylvania State Police trooper and U.S. Marine Corps military policeman, was the keynote speaker at the Midwest Traffic Incident Management Safety Summit (MTIMSS) hosted by InTrans on Sept. 30 and Oct. 1, 2019. The summit is offered on a bi-annual basis.

Along with Bemis' tale about surviving and thriving after being hit by his own unmarked car that was struck by a vehicle while he was assisting a stranded motorist, the summit included informational booths, additional presentations on safety efforts and challenges, and a four-hour optional TIM training session.

Kurt Miene, of the Iowa DOT's Motor Vehicle Enforcement Agency and one of the leaders of the training session, defined a traffic incident as "anything that inhibits or changes the flow of traffic."

The first responders who address those traffic incidents can at any time find themselves in the kind of danger that nearly took Bemis' life. Every day, our nation's firefighters, EMTs/paramedics, state troopers, police officers, sheriff's deputies, tow operators, and departments of transportation responders are exposed to the grave hazards inherent in emergency responses on the nation's highways and roadways.

"No matter how mundane or routine these procedures become, don't allow yourself to become distracted away from that traffic," said Bemis. "Force yourself to frequently break away from whatever it is you're focused on to check on approaching traffic. I know it's a tough balance; it really is, but the danger from passing traffic can change your life. I'm living proof." ■







In brief: Lasting LTAP impacts

Plymouth County engineer Tom Rohe borrowed one of LTAP's Rieker digital ball banks through LTAP's Equipment Loan Program to check curves for advisory speed signing needs.

But while using the ball bank for those checks, he found one site with a minimum superelevation situation where it was determined that one area of the curve needed more superelevation.

Based on that finding, the county had the paving contractor come back and place

another lift on the outer lane to correct the superelevation issue.

The result is a safer curve for drivers and a pavement cross-section that matches what was called for in the design plan.

LTAP currently has two digital ball banks available for loan here, along with a link to an informational guide: https://iowaltap.iastate. edu/digital-ball-bank/. Check out all the equipment available here: https://iowaltap. iastate.edu/equipment-loan-program/, and share your impact story with us!



Workshop and conference calendar

Due to the ongoing COVID-19 pandemic, the events scheduled are subject to change. We are monitoring the situation going forward with regard to our workshops and will notify those that have registered as we make decisions about the status of each. LTAP is also working to provide alternative online opportunities in addition to those already offered on our website. Please check out the resources and stay up to date on the status of events at www.iowaltap.iastate.edu.

Date	Event Name	Location	Contact
April 2020			
1	Iowa Work Zone Safety Workshop - CANCELED	Ames	Paul Albritton
2–3	2020 APWA Iowa Chapter Spring Conference - POSTPONED	West Des Moines	Kim Pinegar
15	Excavation Safety Workshop - POSTPONED	Independence	Paul Albritton
16	Excavation Safety Workshop - POSTPONED	Humboldt	Paul Albritton
19–23	National Association of County Engineers – CANCELED	Baldwin County, Alabama	Keith Knapp
20	Excavation Safety Workshop - POSTPONED	Denison	Paul Albritton
21	Excavation Safety Workshop - POSTPONED	Villisca	Paul Albritton
22	Culvert and Bridge Backwater Program Workshop - POSTPONED	Denison	Paul Albritton
23	Excavation Safety Workshop - POSTPONED	Sigourney	Paul Albritton
28	InTrans Innovation Demonstration and Training Day (MUTCD Signing Review) - POSTPONED	Ames	David Veneziano
29	Modern Roundabouts: Intersections Designed for Safety - POSTPONED	Ames	Keith Knapp
May 2020			
5	Motor Grader Operator Workshop	Atlantic	Paul Albritton
11–22	Safety Inspection of In-Service Bridges – 2 Week – (NHI Course 130055)	Ames	Paul Albritton
12	Motor Grader Operator Workshop	Independence	Paul Albritton
19	Motor Grader Operator Workshop	Ames	Paul Albritton
27	Motor Grader Operator Workshop	Storm Lake	Paul Albritton
June 2020			
2	Motor Grader Operator Workshop	Sigourney	Paul Albritton
23–24	Local Agency Bridge Innovation and Demonstration Days	Independence	Keith Knapp

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Event details and online registration

Watch for details and online registration information, by specific dates and events, on the Iowa LTAP Workshops page, iowaltap.iastate.edu/workshops/.







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